operon.

The nucleotide sequences of the various genes of the PQQ operon were determined, and are set forth in SEQ ID NOs: 2 to 6. Mapping data presented in Figure 13 indicate the relative arrangement of the genes of the PQQ operon of *Pseudomonas sp.* compared to other bacteria.

REFERENCES

1. Amann and Brosius (1985).*Gene 40:* 183.
2. An, *et al.* (1985) *EMBO J. 4*:277-284.
3. Armstrong, *et al.*(1990) *Plant Cell Rep. 9:* 335-339.
4. Aszalos, A., *et al.* (1968) *J. Chromatography 37:* 487-498.
5. Ausubel, *et al.* (1987) *In:* Curr.Protocol.Mol.Biol. Wiley Interscience.
6. Baker, K. F.*et al* (1974) Biol. control plant pathogens, W.H.Freeman and Co., USA.
7. Buyer, J. S. *et al.* (1986) *J. Biol. Chem. 261*: 791-794.
8. Christou, *et al.* (1988) *Plant Physiol. 87:* 671-674.
9. Crossway, *et al.* (1986) *Mol. Gen. Genet. 202:*179-185.
10. Devereux, J., *et al.* (1984) *Nucl. Acids Res. 12:* 387-395.
11. Fravel, D. R. (1988) *Ann. Rev. Phytopathol. 26*: 75-91.
12. Gal A.E. (1968) *Anal. Biochem. 24*: 452-461.
13. Gennaro, A. R. (1990) *In:* Remington's Pharmaceutical Sciences, 18th edition, Mack Publishing Company, Easton, Pennsylvania 18042, USA, pp 1266-1268.
14. Ghebregzabher, *et al.* (1976) *J. Chrom. 127*: 133-162.
15. Gurusiddaiah S., *et al.*(1986) *Antimicrob. Agent. Chemother. 29*: 488-495.
16. Hamdan, H., *et al.* (1991) *App. Environ. Microbiol. 57*: 3270-3277.
17. Fromm, *et al.* (1985) *Proc. Natl. Acad. Sci. (USA) 82:* 5824-5828.
~~18. Hanahan (1983)~~
19. Herrera-Estella *et al.* (1983a) *Nature 303:* 209-213.
20. Herrera-Estella *et al.* (1983b) *EMBO J. 2:* 987-995.